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EXAMINER

CAO, DIEM K

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PRG

# Office Action Summary

Application

09/596,257

Applicant(s)

NUSBICKEL, WENDI L.

Examiner

Diem K Cao

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Office Action is in response to the request for continued examination filed on 1/22/2004.
2. Claims 1-16 remain in the application. Applicant has amended claims 1 and 9.

#### ***Continued Examination Under 37 CFR 1.114***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/22/2004 has been entered.

#### ***Response to Amendment***

4. The amendment filed 1/22/2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Claims 1 and 9 are amended to add new limitation "said Listener object stub remotely calls a method that is executed in a third process address space".

Applicant is required to cancel the new matter in the reply to this Office Action.

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-3 and 9-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 and 9 cite “such that said Listener object stub remotely calls a method that is executed in a third process address space”, it is unclear where in the specification supports for this newly added limitation. The specification seems to disclose (page 15, lines 7-21) query for the stub reference from the third process address space and store in the first address space and when the event occurs, utilizing the stub reference to call a method in the second address space.

Examiner interprets the limitation as “such that said Listener object stub remotely calls a method that is executed in the second process address space” for examining purpose.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2, 4-5, 9-10 and 12-13 are rejected under 35 U.S.C. 103(a) as being

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unpatentable over Riehle (The Event Notification Pattern - Integrating Implicit Invocation with Object-Orientation).

9. **As to claim 1**, Riehle teaches (pages 4-9) a Notifier object (Subject object, StateChange object), a Notifier class (Subject class, StateChange class), list of Listener objects (Observer objects), a Listener class (Observer class), events (event), the Listener object defines a method (operation) to be called when the occurrence of the event (provides the event stubs ... in case of invocation; page 6), the Listener objects enabled to be callable from the Notifier object (A state change object distributes ... an observer), a Listener object stub for the Listener object (EventStub), the Listener object stub configured to be added to the list of Listener objects in the Notifier object (StateChange offers ... via event stub object), the Listener object stub further configured to remotely call the defined method in the Listener object (An event stub forward ... an observer) in response to receiving notification of an event from the Notifier object (A StateChange object distributed ... to all its event stubs), wherein upon the event occurrence, the Notifier object traverse the list of Listener objects and can notify the Listener object stub of the event occurrence such that the Listener object stub remotely calls a method that is executed in its owner (If a subject changes its state ... to all its event stubs, an event stub forwards a notification to its owner, Observer provides the event stubs with an operation reference to be called in case of invocation; page 6).

10. However, Riehle does not explicitly teach the Notifier object in a client application for execution in a first process address space and the Listener object in a server application for

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execution in a second process address space. Riehle teaches the Event Notification Pattern can be used in the object-oriented distributed system (Both the Event Notification ... distributed system ... different respects; page 1), and Notifier object and Listener object are in different process address spaces (IACEventLink serves to make the notification transparent to process boundaries, the purpose of an event chain is to forward ... different process ... local observers; page 8).

11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Riehle to implement both embodiments because it provides a method to manage inter-object-dependencies in the distributed application.

12. **As to claim 9**, it corresponds to the method claim of claim 1, except it is a computer product for establish location transparent event handling.

13. **As to claim 4**, Riehle teaches (pages 4-9) an instance (Subject object, StateChange object) of a Notifier class (Subject class, StateChange class), a list of Listener objects (Observer objects) to be notified upon an event occurrence (event), an instance (Observer object) of a Listener class (Observer class), the Listener instance having a method (method) to be called upon the occurrence of the event (provides the event stubs ... in case of invocation; page 6), the Listener instance enabled to be callable from the Notifier instance (A state change object distributes ... an observer), wherein the Notifier instance and the Listener instance are configured to perform location transparent event handling (This pattern lets developers decouple ... event link objects; page 3, section 2.2), inserting a Listener object stub in the list of Listener object in

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the Notifier instance (StateChange offers ... via event stub object), the Listener object stub configured to remotely call the defined method in the Listener instance (An event stub forward ... an observer), receiving an event occurrence in the Notifier instance (state change objects), responsive to receiving the event occurrence (a subject changes state), traversing the list of Listener objects and passing the event to the Listener object stub (a state change object distributes the notification to all its event stub), creating in the Listener object stub a remote call to the defined method in the Listener instance (an event stub forward a notification to its owner), and executing the defined method in the Listener instance (change in Observer object, inherently).

14. However, Riehle does not teach an instance of a Notifier class in a first address space, and an instance of a Listener object in a second address space. In different embodiment, Riehle teaches Notifier object and Listener object are in different process address spaces (IACEventLink serves to make the notification transparent to process boundaries, the purpose of an event chain is to forward ... different process ... local observers; page 8).

15. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Riehle to implement both embodiments because it provides a method to manage inter-object-dependencies in the distributed application.

16. **As to claim 12**, it is rejected under the same ground as of claim 4.

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17. **As to claim 5**, Riehle does not explicitly teach the Notifier and the Listener classes are Java classes, and the first and second process address spaces are in the first and second Java Virtual Machine. Riehle teaches the Event Notification Pattern can be apply to object-oriented distributed system (Both the Event Notification ... distributed system ... different respects; page 1), and Notifier object and Listener object are in different process address spaces (IACEventLink serves to make the notification transparent to process boundaries, the purpose of an event chain is to forward ... different process ... local observers; page 8). It would have been obvious to use Java language to the system of Riehle because Java is neutral platform programming language, and inherently, the client and server applications are executed in different process spaces in the Java Virtual Machine.

18. **As to claims 2, 10 and 13**, see rejection of claim 5 above.

19. Claims 3, 6-8, 11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riehle (The Event Notification Pattern - Integrating Implicit Invocation with Object-Orientation) in view of OMG (COM/CORBA Interworking RFP - Part A) further in view of Sun Microsystems (Remote Method Invocation Specification).

20. **As to claim 6**, Riehle does not explicitly teach the Listener object stub is generated in an RMI compilation process. Riehle teaches the Listener object is the owner of the Listener object stub (An event stub ... its owner, an observer; page 6), and the forwarding process might be implemented using a remote procedure call (A class IACEventLink ... boundaries; page 8).

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OMG teaches a CORBA object can subscribe to and handle events through its CORBA proxy, and the CORBA proxy relays the event back to the real CORBA object (When the Subscribing Object is a CORBA object section; page 49). Sun teaches the object stub is generated in an RMI compilation process (Stubs are generated using the rmic compiler; Type Equivalency of Remote Objects with Local Stub section). It would have been obvious to one of ordinary skill in the art to combine the teaching of Riehle, OMG and Sun because it provides a method that the Java object could subscribe and handle events through its Java stub because Java can be implemented in distributed system using remote method invocation to invoke object on different process space.

21. As to **claim 7**, Riehle does not explicitly teach registering the Listener instance with an RMI registry, the RMI registry executing in a third Java Virtual Machine, the Notifier instance retrieving a reference to the registered Listener instance when inserting the Listener object stub to the list of Listener objects. Sun teaches (Registry Interfaces section) registering the Listener instance with an RMI registry (The RMI system ... by simple names), the RMI registry executing in a third Java Virtual Machine (Any server process can ... standalone), the Notifier instance retrieving a reference to the registered Listener instance when inserting the Listener object stub to the list of Listener objects (A simple bootstrap name server ... particular host and port; Locating Remote Objects section). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Riehle and Sun because RMI registry is implemented by Sun and could be executes either in the server process address space or as a stand alone address space.

22. **As to claim 8**, Riehle as modified by Sun teach the step of creating in the Listener object stub remotely calls the defined method in the Listener instance through the retrieved reference upon receiving the event from the Notifier instance (Collaborations of Riehle; page 6 and Locating Remote Objects section; Sun Microsystems).

23. **As to claims 3 and 11**, see rejections of claims 6-8 above.

24. **As to claims 14-16**, see rejections of claims 6-8 above.

#### ***Response to Arguments***

25. Applicant's arguments filed 1/22/2004 have been fully considered but they are not persuasive.

26. As to Applicant's arguments (pages 8-9) regarding Reihle does not teach "the Notifier calls a method that executes in a third address space, which is a limitation of claims 1, 4, 9 and 14", Examiner respectfully disagrees because the newly added limitation for claims 1 and 9 does not seem to be supported by the specification (see 112 first rejection above), and claims 4 and 14 does not amended to teach the above limitation, and are rejected as set forth above. Therefore, the arguments are not persuasive.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diem K Cao whose telephone number is (703) 305-5220. The examiner can normally be reached on Monday - Thursday, 9:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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